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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/825,206 | 04/16/2004 | Sung-Su Jung | 8734.295.00 US | 7672 |
| 30827 7590 12/20/2007 MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006 | | | EXAMINER TADESSE, YEWEBDAR T | |
| | | | ART UNIT 1792 | PAPER NUMBER |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--|------------------------------------|--|
| Office Action Summary | Application No. 10/825,206 | Applicant(s) JUNG ET AL. | |
| | Examiner Yewebdar T. Tadesse | Art Unit 1792 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-30 is/are pending in the application.
- 4a) Of the above claim(s) 14 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 13, 15-27, 29 and 30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>12/10/07&12/12/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-10, 12-1, 15-27 and 29-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. In claim 1, lines 4-6, 8 and 11; the phrase "the dispensing unit" lacks proper antecedent basis. For the purpose of examination "the phrase "the at least one dispensing unit" is assumed. In claim 1, lines 5, 8, 10 and 12 the phrase "the image display portion/s" lacks proper antecedent basis. For the purpose of examination the phrase "the plurality of image display portions" is assumed. In claim 1, lines 6-8 and 11; the phrase "the dispensing unit" or "each dispensing unit" lacks proper antecedent basis. The phrase "at least one dispensing unit" is assumed. In claim 3, line 3, the phrase "a plurality of image display portions" lacks proper antecedent basis. For the purpose of examination the phrase "the plurality of image display portions" is assumed. In claim 9, line 2-3; claim 10, line 3; claim 12, line 2 and claim 13, line 2-3; the phrase "each one of the dispensing units" lacks proper antecedent basis "the at least one dispensing unit". In claim 10, line 1, the phrase "the image display portions" lacks proper antecedent basis. For the purpose of examination the phrase "the plurality of image display portions" is assumed. In claim 15, lines 4-5, the phrase "the dispensing unit" lacks proper antecedent basis. The phrase "each one of the plurality of dispensing

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units" is assumed. In claim 15, lines 5, 10 and 12 the phrase "the image display portion/s" lacks proper antecedent basis. For the purpose of examination the phrase "the plurality of image display portions" is assumed. In claims 16 and 17, line 3 each, the phrase "a plurality of image display portions" lacks proper antecedent basis. For the purpose of examination the phrase "the plurality of image display portions" is assumed. In claims 24 and 25, lines 1-2 each, the phrase "the image display portions" lacks proper antecedent basis. For the purpose of examination the phrase "the plurality of image display portions" is assumed. In claim 26, line 3; claim 27, line 2 and claim 30, line 2 the phrase "the dispensing unit/s" lacks proper antecedent basis. The phrase "the plurality of dispensing units" is assumed. In claim 29, line 2; the phrase "the dispensing unit" lacks proper antecedent basis. The phrase "the at least one dispensing unit" is assumed.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) The invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

5. Claims 1-10 and 12 are rejected under 35 U.S.C. 102(a) as being anticipated by Ingenhoven et al (WO02/40165) (see US 2004/0020942 A1 or US 7,055,723 for English Translation).

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With respect to claim 1, Ingenhoven et al discloses (see Fig 5) a dispenser capable of dispensing a dispensing material onto a substrate having a plurality of image display portions arranged in a matrix array, comprising: at least one dispensing unit (channel 24) to supply a dispensing material on a substrate (through channel 11), the at least one dispensing unit corresponding to a row of the matrix array of the image display portions; at least one support member (29) to support and align the at least one dispensing unit; and a plurality of syringes (output channels 12 with needles 30 and tips 6) mounted on the at least one dispensing unit, wherein the number of syringes in the at least one dispensing unit corresponds to the number of the plurality of image display portion in a row of matrix array (depending the size of the substrate, plurality of image display portions and the dispensing apparatus) and each syringe is capable of dispensing the dispensed material along the peripheral region of the corresponding plurality of image display portions. Furthermore, in Ingenhoven et al the distance between the syringes in the at least one dispensing unit is capable of being determined by the size of the plurality of image display portions.

As to claim 2, in Ingenhoven et al the substrate is capable of having a plurality of thin film transistor arrays defined on the substrate, each thin film transistor array corresponding to a respective one image display portion of a plurality of image display portions defined on the substrate.

Regarding claim 3, in Ingenhoven et al the substrate is capable of having a plurality of color filter arrays defined on the substrate, each color filter array corresponding to a

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respective one image display portion of a plurality of image display portions defined on the substrate.

As to claims 4-6, in Ingenhoven et al the dispensing material is capable of including sealant for forming a seal pattern, wherein the seal pattern defines an opening at one portion, or a closed pattern encompassing the image display portion.

With respect to claims 7-8, in Ingenhoven the dispensing material capable of including liquid crystal material or capable of including silver.

As to claim 9, Ingenhoven et al discloses a gap controller (guiding robotic arm 17) is capable of controlling a gap between the substrate and the syringes.

With respect to claim 10, In Ingenhoven et al the plurality of image display portions are capable of being disposed as an array of image display portions on the substrate, and wherein the number of the syringes (output channels 12 with needles 30 and tips 6) provided on the at least one dispensing unit are capable of corresponding to the number of image display portions formed in a row of the array of image display portions.

With respect to claim 12, in Ingenhoven et al each one of the pluralities of syringes (output channels 12 with needles 30 and tips 6) provided on each the at least one dispensing unit are movable in at least one direction of the at least one dispensing unit.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ingenhoven et al (WO02/40165) (see US 2004/0020942 A1 or US 7,055,723 for English Translation) applied to claim 1 or 15 above and further in view of Yanagita et al (US 6,540,104).

Ingenhoven teaches a mechanically pushed piston but gas (air) pressurizing extrusion in controlling the dispensed material. It is well known in the art to migrate piston member using air; for instance - Yanagita et al discloses (see Fig 4) a pneumatic driven piston and a cylinder (support) with gas inlets. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include air inlets as an alternative way of piston pushing means as desired.

Allowable Subject Matter

8. Claims 13, 15-27 and 29-30 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter: with respect to claim 13, prior art of record does not disclose or suggest a dispenser for dispensing a dispensing material onto a substrate having a plurality of image display portions arranged in a matrix array, comprising, among others, at least one of the plurality of syringes provided on at least one dispensing unit is fixed with respect to the dispensing unit and the other ones of the syringes are movable at least

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one direction of the dispensing unit. As to claims 15-27 and 29-30, Ingenhoven et al lacks teaching a plurality of dispensing units to contain a material to be dispensed, at least two of the syringes mounted on each one of the plurality of dispensing units, wherein the plurality of dispensing units correspond to a row of the matrix array of the plurality of image display portions. Prior art of record does not disclose or suggest a dispenser for dispensing a dispensing material onto a substrate having a plurality of image display portions arranged in a matrix array, comprising, among others, a plurality of dispensing units to contain a material to be dispensed, at least two of the syringes mounted on each one of the plurality of dispensing units, wherein each one of the plurality of dispensing units corresponds to a row of the matrix array of the plurality of image display portions and each syringe dispensing the dispensing material along the peripheral region of the corresponding plurality of image display portions.

Response to Arguments

10. Applicant's arguments filed 10/03/2007 have been fully considered but they are not fully persuasive. In view of the amendment examiner withdraws the rejections of Bova et al and Parker et al. Applicants argue that Ingenhoven does not teach or suggest all the feature of the claimed invention. Examiner respectfully disagrees because Ingenhoven meets the claimed invention (re 1-10 and 12) as shown above. Examiner withdraws the rejection of claims 1-10, 12-13 and 15-27 in view of JP'299, as argued by applicants and shown on paragraph 32, in JP'299 the plurality of syringes (10) dispense the liquid crystal material onto one panel because the two panels with two

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patterns produced by controlling the size of the dispensing units (syringes 8 in JP'299) not by controlling the size of the syringes (nozzles 10). However, claims 1-10 and 12 are found to be rejectable over Ingenhoven because as recited above Ingenhoven meets claimed elements and capable of functioning as claimed in treating a substrate having a plurality of display portions arranged in a matrix array (such as the dispenser performing scanning operation along the substrate having panels or portions arranged in a matrix) and each syringe capable of dispensing the dispensing material along the peripheral region of the corresponding plurality of image display portions.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T. Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


YTT